

**ESTIMATES OF BURDEN HOURS
FOR ECONOMIC ANALYSES OF
THE TOXICS RELEASE INVENTORY PROGRAM**

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Introduction

The Office of Environmental Information administers the Toxics Release Inventory (TRI) program. This program requires annual reporting from facilities in manufacturing and certain other industry sectors, as well as federal facilities. Using readily available information and reasonable estimates, facilities are responsible for completing TRI reports on toxic chemical releases and other waste management activities.

The amount of time that facilities spend gathering information, making estimates, completing the TRI forms, keeping records, and mailing the forms represents the burden hours imposed by the program. Historically, burden hour estimates have been developed for various economic analyses and Information Collection Requests (ICRs) for the TRI program.

The primary TRI reporting instrument is the "Form R": a 5-page form addressing facility and chemical identity, chemical releases to various environmental media, off-site transfers, on-site waste treatment, on-site energy recovery, and source reduction and recycling. However, facilities with an annual reportable release amount of 500 pounds or less of a reportable chemical can take advantage of an alternate manufacture, process, or otherwise use threshold of one million pounds.¹ Facilities that qualify for this alternate threshold can submit a "Form A" instead of a Form R. Form A only contains data on facility and chemical identity. Because the Form A is simpler than the Form R, facilities that qualify for the alternate threshold expend less time on calculations, report completion and recordkeeping for chemicals that are reported on Form A.

This memo has the following objectives: 1) to describe the existing burden hour estimates, 2) to describe revisions to the burden hour estimates based on the experience of facilities reporting to TRI, and 3) to note areas for further research.

Existing Estimates

The tasks associated with TRI reporting are broken into the following major activities that are conducted for the facility or for the specific chemical being reported. Each bullet below describes the activity and the source of the burden hour estimate.

FACILITY

- **Rule Familiarization:** If a facility is subject to TRI reporting for the first time, its staff must learn and understand the reporting requirements. At a minimum, this involves reading the reporting form instructions, but could also involve consulting EPA guidance documents, attending a training course, and/or calling the technical hotline. The burden

¹ The annual reportable amount of a chemical is calculated as the sum of the quantities released, used for energy recovery, recycled and treated. Form A cannot be used for persistent bioaccumulative toxic (PBT) chemicals that have a lower reporting threshold.

associated with rule familiarization only occurs in the first year that a facility is subject to reporting. In subsequent years, the staff are familiar with the requirements that apply to their facility, and the facility does not incur this burden again. The burden hour estimate for this activity was developed in the economic analysis for the original rulemaking for the TRI program.

- **Compliance Determination:** Facilities must determine whether they meet the criteria for reporting. A facility must report to TRI if it: (a) is within industry groups covered by the TRI program; (b) has 10 or more employees or the equivalent of 10 full-time employees; and (c) manufactures, processes, or uses a listed toxic chemicals above threshold levels. The incremental costs associated with the first two determinations are expected to be low, since most facilities are familiar with their industry group and number of employees. The third determination, however, requires the management and technical staff to determine the types of chemicals used at the facility, and whether they are manufactured, processes, or otherwise used above applicable reporting thresholds. The time spent making threshold determinations is expected to comprise the majority of time spent making a compliance determination. However, this burden is expected to decline in subsequent years the facility has developed a system for gathering readily available information or making reasonable estimates. Based on the economic analysis of the original rulemaking, the burden estimate for the first year of compliance determination is four times that for subsequent years.
- **Supplier Notification (if applicable):** Facilities supplying mixtures and trade name products containing TRI chemicals above *de minimis* levels must notify their customers of the contents of their products on an annual basis. This is required so that customers can make threshold calculations for their own facilities. Facility burden estimates reflect the median number of hours spent preparing supplier notification per a 1992 survey.

FORM R

- **Form R Calculations and Report Completion:** Facilities that must report to TRI will incur additional costs to retrieve, process, review, and transcribe information to complete each report. Most of the time for form completion is to calculate releases and transfers; relatively little time is required to copy information to the form. Unless the facility qualifies for the alternate threshold, the facility must complete one Form R for each chemical it is reporting. This takes more time in the first year than in subsequent years. The subsequent year process consists of verifying and updating data, reviewing previous calculations, and modifying the information reported on the previous year's Form R, rather than originating or retrieving data for the first time. The economic analysis for the original rulemaking estimated the time required to complete a report on a chemical for the first time to be 147 percent of the time required in subsequent years.
- **Form R Recordkeeping and Mailing :** After a facility has completed the form, it incurs additional burden for recordkeeping. Recordkeeping allows a facility to use the

information to make calculations in subsequent years, and as documentation in the event it receives a compliance audit. Facilities must maintain records such as estimation methodology and calculations, engineering reports, inventory, incident and reporting logs, and any other supporting materials needed to provide the information required on the Form R. Facilities must transmit Form Rs to EPA and State authorities. The estimates for mailing and recordkeeping include the 1993 update based on the economic analysis of the proposed rule to amend Form R pursuant to the Pollution Prevention Act. Recordkeeping and mailing costs are not expected to vary from the first year to subsequent years.

FORM A

- **Form A Calculations/Certification:** Facilities must gather data and perform calculations to determine whether they qualify for a Form A. If a facility's annual reportable amount for a listed toxic chemical is 500 pounds or less, the facility is eligible to apply the alternate threshold of 1 million pounds manufactured, processed or otherwise used. The estimates for Form A calculations/certification are taken from the economic analysis of the alternate threshold. Per the economic analysis of the original rule, these estimates are multiplied by 147 percent to calculate the first-year burden.
- **Form A Report Completion:** If a facility is eligible to apply the alternate threshold, it must complete the Form A. The facility completes one Form A that contains certifications for all the listed toxic chemicals to which it is applying the alternate threshold. The estimates for report completion are taken from the economic analysis of the alternate threshold rule. Per the economic analysis of the original rule, these estimates are multiplied by 147 percent to calculate the first-year burden.
- **Form A Recordkeeping and Mailing:** After a facility has certified a listed toxic chemical as eligible for the alternate threshold, it incurs additional labor costs for recordkeeping and mailing. Recordkeeping allows a facility to use the information in making calculations in subsequent years, and as documentation in the event it receives a compliance audit. Facilities must transmit Form As to EPA and State authorities. The estimates for recordkeeping and mailing are taken from the economic analysis of the alternate threshold rule. Recordkeeping and mailing costs are not expected to vary from the first year to subsequent years.

Existing unit burden hour estimates by labor category and activity are summarized in Table 1. Note that rule familiarization, compliance determination, and supplier notification (if applicable) are incurred at the facility level and do not vary with the number of reports filed. Calculations, form completion and recordkeeping/mailing are incurred for each report filed.

TABLE 1
EXISTING UNIT BURDEN HOUR ESTIMATES

Activity		Unit Burden Hour Estimates			Total
		Managerial	Technical	Clerical	
First Year of Reporting					
Facility	Rule Familiarization	12	22.5	0	34.5
	Compliance Determination	4	12	0	16
	Supplier Notification	0	7	17	24
Form R	Calculations/Form Completion	20.9	45.2	2.9	69
	Recordkeeping/Mailing	0	4	1	5
Form A	Calculations/Certification	16.3	26.0	2.2	44.5
	Recordkeeping/Mailing	0	2.4	0.6	3
	Form Completion	0.15	1.8	0.15	2.1
Subsequent Years of Reporting					
Facility	Compliance Determination	1	3	0	4
	Supplier Notification	0	7	17	24
Form R	Calculations/Form Completion	14.3	30.8	2	47.1
	Recordkeeping/Mailing	0	4	1	5
Form A	Calculations/Certification	11.1	17.7	1.4	30.2
	Recordkeeping/Mailing	0	2.4	0.6	3
	Form Completion	0.1	1.2	0.1	1.4

Revised Estimates

The main issue with the existing estimates is that they have not been updated to reflect a variety of factors that have reduced reporting burden, especially after the first reporting year. Based on the economic analysis of the original rule, EPA expected that fewer hours would be required for reporting in subsequent years. However, based on respondent experience it appears that burden hours have fallen off further over the years than originally expected. The specific factors contributing to the decline in reporting burden are discussed below.

First, the existing burden hour estimates do not reflect changes in the availability of information to facility staff. At the beginning of the program, it was assumed that facilities would have to rely primarily on inventory records, Material Safety Data Sheets, and engineering estimates. Over time, a variety of other information sources have become more readily available. These sources include information on product composition and impurities from suppliers, improved and detailed guidance from EPA and trade associations, and emission factors provided by EPA. With the advent of the Internet, facilities have much greater access to information that assists in complying with the reporting requirements.

Second, facilities now have other state and federal reporting requirements that have been implemented since the beginning of the TRI program. Although it varies from facility to facility, these reports may include annual emission inventories, emission monitoring, hazardous waste generator reports, storm water discharge reports, and waste water discharge reports. Since these reports are precursors to TRI reporting and can be used to fulfill TRI reporting requirements, they have the effect of reducing the burden attributable to TRI.

Third, the burden hour estimates were largely developed when computerization and automation was just beginning. In the late 1980s, many facilities continued to rely on manual processes for report completion. Over time, facilities have gained much greater access to electronic reporting and recordkeeping options. There are now a variety of off-the-shelf computer software packages for environmental compliance, including EPA's Automated Form R and the TRI-Made Easy software. Even simple spreadsheet programs like Excel or Lotus 1-2-3 greatly simplify the process of making calculations and updating information from previous reporting years.

Fourth, the existing burden hour estimates incorporate the assumption that every facility reports releases of each reported chemical to all environmental media: air, water, and land. This assumption leads to an overestimate of reporting burden because it implies that facilities will spend time gathering information, making calculations, and keeping records for a broader set of chemical management activities than is actually the case. In fact, for the 2000 reporting year, over 60 percent of Form Rs reported releases to a single medium. Another 12 percent reported no releases, but instead reported only on off-site transfers and on-site waste management. Only 1 percent of Form Rs included release data for all media.

The existing burden hour estimates reflect none of these factors. A review of feedback from reporting facilities reveals that the existing burden hour estimates represent substantial overestimates of actual reporting burden for most reporting facilities. The existing burden estimates for subsequent year compliance determination, Form R calculations and form completion, and recordkeeping/mailing are above the 95th percentile of per form burden reported by actual TRI respondents.

Estimates of the actual burden incurred by facilities reporting to TRI are available from the following sources:

- 1994 and 1995 Toxic Release Inventory: Data Quality Report
- 1996 Toxic Release Inventory: Data Quality Report
- 1999 Research Triangle Institute Informal and Formal Surveys of TRI Burden

The Data Quality Reports are part of an EPA program of site surveys to assess the quality of TRI data and to identify areas where improved guidance would be useful for improving the accuracy of future reported data. Sampled facilities are selected to obtain a random group of facilities from key industries to permit the results to be scaled up to the entire industry group. One of the questions asked of facilities is how much time is spent to fulfill the reporting requirements of Section 313 for the most recent reporting year. The Research Triangle Institute surveys were small scoping activities to identify factors related to variability in facility burden hours. From all of the sources, there are a total of 180 facilities that provided information about the amount of time needed to comply with TRI reporting requirements.

Using the estimates of total time expended for reporting and the number of Form Rs for each facility, it is possible to derive an estimate of average burden hours per Form R per facility. Most of the facility responses are in the form of range estimates of the total time required to complete all TRI-related activities. For each facility, the mid-point of the burden hour range was divided by the number of Form Rs that the facility filed to obtain an estimate of burden per form for each facility. The facility-level estimates were then averaged. For the 180 facilities in these sources, the average burden hours per Form R is 14.5 hours.² This represents a "subsequent year" burden since the facilities had reported to TRI in previous years.

Based on the questions asked of the facilities, it would be reasonable to conclude that 14.5 hours per form includes all reporting activities, including compliance determination and recordkeeping/mailing. The facilities were asked about the total time required to comply with TRI reporting requirements including familiarization with the regulation and reporting instructions, completion and internal review of the reporting forms, and all documentation. However, for the purposes of this revision, the 14.5 hours per form are only being used to revise the burden hour estimate for Form R calculations and form completion in subsequent years. The

² Another approach would be to sum the mid-points of the burden ranges for all facilities, then divide by the total number of Form Rs submitted by all the facilities. This yields an estimate of 12.6 hours per Form R.

burden hour estimates for first-year activities, as well as for compliance determination and recordkeeping/mailling in subsequent years have not been modified. This will result in some overestimation of unit burden hours at the typical facility.³

The main reason for this approach is that all of the responses used to generate the revised estimate were obtained prior to promulgation of lower TRI reporting thresholds for lead and other persistent bioaccumulative toxic (PBT) chemicals. Some commenters on these rules asserted that lower reporting thresholds would substantially increase unit reporting burden. EPA did not entirely agree. EPA estimated an incremental compliance determination burden of 2.7 hours in the first year and 0.7 hours in subsequent years for PBT chemicals, and 1.6 hours in the first year and 0.4 hours in subsequent years for lead. Not revising the burden hour estimates for facility-level compliance determination and recordkeeping/mailling more than accounts for any additional time that facilities may spend to make compliance determinations for chemicals with lower reporting thresholds. In the future, when EPA collects information about facilities that are filing TRI reports on these chemicals, the responses to questions about burden hours can be used to revise estimates for all activities rather than just Form R calculations and form completion.

In Table 2 below, the average burden hours per Form R per facility has been used to revise the "Form R Calculations and Form Completion" activity burden hours. For subsequent years of reporting, 14.5 hours have been distributed among managerial, technical, and clerical staff based on the historical percentage split of time between these labor categories for this activity. In previous analyses, the time required to complete a report in the first year of reporting has calculated as 147 percent of the time required in subsequent years. It is likely that the same factors that have reduced subsequent year burden also apply to first year reporting. However, EPA has chosen not to revise first-year burden hour estimates since all the available observations apply to subsequent year reporting. While there is a strong possibility that the historical relationship continues, more data are needed to verify this relationship.

For Form A, the calculations needed to determine eligibility are a subset of the calculations necessary to complete Form R. Thus, the time required to calculate the annual reportable amount was estimated in previous ICRs by aggregating EPA's estimates of the time required to calculate each of the sections of Form R that are relevant to determining annual reportable amount. According to these estimates, calculations for a Form A take approximately 64 percent of the time of calculations for the Form R. Based on EPA's revision to the unit burden estimates for Form R calculations and form completion, EPA estimates that calculating an annual reportable amount for Form A will require an average of 9.3 hours for each listed toxic chemical that the facility must report under EPCRA section 313. Table 2 reflects this revision. As with Form R, burden estimates for Form A completion or recordkeeping/mailling are unchanged. Likewise, estimates for reporting in the first year have not been modified.

³ Additionally, the "typical" facility may be better represented by the median value rather than the mean (or average) since most of the observations cluster toward the lower end of hours per form. The median value is 8.0 hours per Form R.

In April 2002, EPA contacted nine facilities that file Form As to inquire about the typical facility level burden associated with using the reporting form. The total facility level burden estimates were reported in ranges. Depending on whether the midpoint or maximum of the range was used, the average of facility-level burden hours per chemical certification was reported at 11.2 to 15.5 hours. EPA's estimate of 13.7 total hours for a facility certifying one chemical on a Form A falls within this range.⁴

⁴ Note that one facility among the 9 facilities reported a much higher per chemical burden than the other 8 facilities. Without this outlier, the average of facility-level burden hours per chemical certification would be 3.8 to 4.9 hours per chemical certified.

TABLE 2
REVISED UNIT BURDEN HOUR ESTIMATES

Activity		Unit Burden Hour Estimates			Total
		Managerial	Technical	Clerical	
First Year of Reporting					
Facility	Rule Familiarization	12	22.5	0	34.5
	Compliance Determination	4	12	0	16
	Supplier Notification	0	7	17	24
Form R	Calculations/Form Completion	20.9	45.2	2.9	69
	Recordkeeping/Mailing	0	4	1	5
Form A	Calculations/Certification	16.3	26	2.2	44.5
	Recordkeeping/Mailing	0	2.4	0.6	3
	Form Completion	0.15	1.8	0.15	2.1
Subsequent Years of Reporting					
Facility	Compliance Determination	1	3	0	4
	Supplier Notification	0	7	17	24
Form R	Calculations/Form Completion	4.4	9.5	0.6	14.5
	Recordkeeping/Mailing	0	4	1	5
Form A	Calculations/Certification	3.4	5.5	0.4	9.3
	Recordkeeping/Mailing	0	2.4	0.6	3
	Form Completion	0.1	1.2	0.1	1.4

In an effort to reduce reporting burden further, EPA has developed intelligent software for the desktop computer called TRI-Made Easy (TRI-ME). This software is designed to assist facilities in determining and completing their reporting obligations. A small sample of facilities that tested TRI-ME for the 2000 reporting year reported an average burden reduction of 25 percent in the activities of Form R Calculations and Form Completion and Recordkeeping/Mailing. For the Form A, this percentage burden reduction estimate can be applied to the activities of Calculations/Certification and Recordkeeping/Mailing. All facilities that used TRI-ME said that they would use it again in the future.

The facility responses that are used to revise the burden hour estimates in this memo were collected with reference to reporting years before the TRI-ME software was available. At the current time, TRI-ME burden reduction can be assessed against total Form R or Form A reporting burden using assumptions for TRI-ME adoption rates. In future years, the underlying adoption rates and burden reduction will be reflected in facility responses about the number of hours required to comply with TRI reporting requirements. The total estimated annual burden reduction attributable to TRI-ME at projected 2001 reporting levels assuming a 60 percent adoption rate is shown below.⁵

TABLE 3
ANNUAL TRI-ME BURDEN REDUCTION

Burden Reduction Hours		Number of Affected Forms	Total Reduction
Per Form R	(4.9)	52,870	(259,063)
Per Form A	(3.1)	7,925	(24,568)
Total Burden Reduction Hours			(283,631)

⁵ EPA expects adoption rates of TRI-ME to increase rapidly. It would be reasonable to assume that adoption rates would be similar to current levels of electronic filing, which provide an indication of receptivity to computer-based report completion. For the 1999 reporting year, 73 percent of responses were received electronically. For the 2000 reporting year, this percentage increased to 79 percent. It would not be unreasonable to expect similar adoption rates for TRI-ME.

References

Research Triangle Institute/Center for Economics Research, *Memo from Smita Brunnermeier, et al to Joe Callahan (USEPA/OPPT), Subject: Informal Survey Results*, May 7, 1999.

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U.S. EPA. *Analysis of Compliance with the Supplier Notification Requirements under Section 313 of EPCRA*, February 1992.

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U.S. EPA. *Regulatory Impact Analysis of the EPCRA Section 313 Alternate Threshold Final Rule*, November 18, 1994.

U.S. EPA. *Review and Update of Burden and Cost Estimates for EPA's Toxics Release Inventory Program*, August 1993.

U.S. EPA. *1994 and 1995 Toxic Release Inventory: Data Quality Report*, EPA 745-R-98-002, March 1998.

U.S. EPA. *1996 Toxic Release Inventory: Data Quality Report*, EPA 745-R-98-016, December 1998.

Data from Data Quality Reports: RY94-96

SIC	ID	PERSONNEL	RANGE	FORMR
25	DCDBS006	FACILITY ENVIRONMENTAL STAFF	<=20 HOURS	1
25	DCDBS008	CONSULTANT/CONTRACTOR	<=20 HOURS	1
25	DKKCC012	FACILITY STAFF	<=20 HOURS	1
25	DKKCC014	FACILITY ENVIRONMENTAL STAFF	<=20 HOURS	3
25	DKKCC017	FACILITY ENVIRONMENTAL STAFF	21-50 HOURS	1
25	DKKCC018	CORPORATE ENVIRONMENTAL STAFF	50-100 HOURS	9
25	DKKMM005	FACILITY STAFF	<=20 HOURS	6
25	DKKMM007	FACILITY STAFF	21-50 HOURS	5
25	DKKMM008	CORPORATE ENVIRONMENTAL STAFF	<=20 HOURS	2
25	DKKMM011	FACILITY ENVIRONMENTAL STAFF	21-50 HOURS	1
25	DKKPR012	CORPORATE ENVIRONMENTAL STAFF	21-50 HOURS	1
		SAFETY DEPARTMENT STAFF		
25	DKKPR013	CONSULTANT/CONTRACTOR	<=20 HOURS	2
25	DKKPR014	FACILITY ENVIRONMENTAL STAFF	21-50 HOURS	1
		FACILITY STAFF		
25	DKKPR015	CORPORATE ENVIRONMENTAL STAFF	21-50 HOURS	3
25	DCRDR001	SAFETY DEPARTMENT STAFF	50-100 HOURS	1
25	LEXJLW007	FACILITY STAFF	<=20 HOURS	2
25	LEXJLW008	CORPORATE ENVIRONMENTAL STAFF	21-50 HOURS	8
25	LEXJLW009	CORPORATE ENVIRONMENTAL STAFF	21-50 HOURS	3
25	LEXJLW010	CONSULTANT/CONTRACTOR		1
25	LEXJLW013	FACILITY ENVIRONMENTAL STAFF	21-50 HOURS	1
25	RTPMBL004	CORPORATE ENVIRONMENTAL STAFF	<=20 HOURS	6
25	RTPMBL005	CORPORATE ENVIRONMENTAL STAFF	21-50 HOURS	5
25	RTPMOP004	FACILITY ENVIRONMENTAL STAFF	21-50 HOURS	5
25	RTPMOP005	FACILITY ENVIRONMENTAL STAFF	21-50 HOURS	5
25	RTPMOP008	CORPORATE ENVIRONMENTAL STAFF	21-50 HOURS	5
26	DCDBS010	FACILITY ENVIRONMENTAL STAFF	41-100 HOURS	6
26	DCDBS011	FACILITY ENVIRONMENTAL STAFF	21-40 HOURS	7
26	DKKMM014	FACILITY ENVIRONMENTAL STAFF	9-20 HOURS	3
26	DKKMM017	FACILITY STAFF	<= 8 HOURS	2
26	DKKPR018	FACILITY ENVIRONMENTAL STAFF	21-40 HOURS	4
26	LEXJLW014	CORPORATE ENVIRONMENTAL STAFF	<= 8 HOURS	1
26	RTPCAL001	FACILITY ENVIRONMENTAL STAFF	21-40 HOURS	3
26	RTPCAL002	FACILITY ENVIRONMENTAL STAFF	41-100 HOURS	3
26	RTPDBG001	FACILITY ENVIRONMENTAL STAFF	>100 HOURS - 0	14
26	RTPMOP006	FACILITY ENVIRONMENTAL STAFF	21-40 HOURS	8
281	DCDBS001	FACILITY ENVIRONMENTAL STAFF	21-50 HOURS	4
		SAFETY DEPARTMENT STAFF		
		OPERATIONS AS WELL, PART OF THE TIME.		
281	DCDMB001	FACILITY ENVIRONMENTAL STAFF	21-50 HOURS	8
281	DCDMB002	FACILITY ENVIRONMENTAL STAFF	<=20 HOURS	7
281	DCJJC001	FACILITY ENVIRONMENTAL STAFF	50-100 HOURS	14

SIC	ID	PERSONNEL	RANGE	FORMR
		CORPORATE ENVIRONMENTAL STAFF		
281	DKKCC001	FACILITY STAFF	100-200 HOURS	7
281	DKKCC003	CONSULTANT/CONTRACTOR	<=20 HOURS	2
281	DKKCC005	FACILITY STAFF	<=20 HOURS	5
281	DKKCC007	FACILITY ENVIRONMENTAL STAFF	50-100 HOURS	9
281	DKKMM002	FACILITY ENVIRONMENTAL STAFF	<=20 HOURS	4
281	DKKMM003	CORPORATE ENVIRONMENTAL STAFF	<=20 HOURS	3
281	DKKPR003	FACILITY STAFF	<=20 HOURS	3
281	DKKPR005	FACILITY ENVIRONMENTAL STAFF	21-50 HOURS	2
281	DKKPR007	FACILITY STAFF	<=20 HOURS	2
281	DCWRG001	FACILITY ENVIRONMENTAL STAFF	21-50 HOURS	5
281	LEXJLW002	CONSULTANT/CONTRACTOR	<=20 HOURS	1
281	LEXJLW003	FACILITY ENVIRONMENTAL STAFF	50-100 HOURS	9
281	LEXJLW004	FACILITY ENVIRONMENTAL STAFF	<=20 HOURS	4
281	RTPMBL002	FACILITY ENVIRONMENTAL STAFF	<=20 HOURS	5
		CORPORATE ENVIRONMENTAL STAFF		
		FACILITY STAFF		
		SAFETY DEPARTMENT STAFF		
281	RTPMBL003	CORPORATE ENVIRONMENTAL STAFF	21-50 HOURS	1
285	DCDBS002	FACILITY STAFF	<=20 HOURS	1
285	DCDBS003	FACILITY STAFF	<=20 HOURS	2
		TECHNICAL DIRECTOR		
285	DKKCC002	FACILITY STAFF	21-50 HOURS	5
285	DKKCC004	FACILITY ENVIRONMENTAL STAFF	<=20 HOURS	3
285	DKKCC006	FACILITY STAFF	<=20 HOURS	4
285	DKKCC008	FACILITY STAFF	<=20 HOURS	2
285	DKKMM001	CONSULTANT/CONTRACTOR	21-50 HOURS	2
285	DKKPR001	CORPORATE ENVIRONMENTAL STAFF	<=20 HOURS	1
285	DKKPR002	FACILITY STAFF	21-50 HOURS	4
285	DKKPR006	FACILITY STAFF	21-50 HOURS	4
285	DKKPR008	CORPORATE ENVIRONMENTAL STAFF	21-50 HOURS	1
		FACILITY STAFF		
285	DCPRB001	FACILITY ENVIRONMENTAL STAFF	<=20 HOURS	6
285	DCPRB002	FACILITY STAFF	<=20 HOURS	1
285	LEXJLW001	CONSULTANT/CONTRACTOR	<=20 HOURS	2
285	RTPML001	FACILITY ENVIRONMENTAL STAFF	21-50 HOURS	6
		CORPORATE ENVIRONMENTAL STAFF		
		FACILITY STAFF		
285	RTPMOP001	FACILITY ENVIRONMENTAL STAFF	100-200 HOURS	8
		SAFETY DEPARTMENT STAFF		
285	RTPMOP003	FACILITY ENVIRONMENTAL STAFF	<=20 HOURS	9
286	DKKMM012	FACILITY STAFF	<= 8 HOURS	2
286	DKKMM013	FACILITY STAFF	21-40 HOURS	2
286	DKKMM015	FACILITY STAFF	<= 8 HOURS	1
286	DKKMM016	FACILITY ENVIRONMENTAL STAFF	41-100 HOURS	12
286	DKKPR016	FACILITY ENVIRONMENTAL STAFF	41-100 HOURS	5

SIC	ID	PERSONNEL	RANGE	FORMR
286	DCKPR017	FACILITY ENVIRONMENTAL STAFF	41-100 HOURS	15
286	DCKPR019	FACILITY STAFF	41-100 HOURS	5
286	LEXJLW015	FACILITY ENVIRONMENTAL STAFF	>100 HOURS - 0	19
286	LEXJLW016	FACILITY ENVIRONMENTAL STAFF	41-100 HOURS	12
286	RTPMOP007	FACILITY ENVIRONMENTAL STAFF	41-100 HOURS	12
		FACILITY STAFF		
30	DCDBS004	CORPORATE ENVIRONMENTAL STAFF	<=20 HOURS	1
		CONSULTANT/CONTRACTOR		
30	DCDBS007	CONSULTANT/CONTRACTOR	<=20 HOURS	1
30	DCDBS009	FACILITY ENVIRONMENTAL STAFF	<=20 HOURS	1
		SAFETY DEPARTMENT STAFF		
30	DCKCC009	FACILITY STAFF	<=20 HOURS	1
30	DCKCC010	CORPORATE ENVIRONMENTAL STAFF	21-50 HOURS	3
30	DCKCC011	FACILITY ENVIRONMENTAL STAFF	<=20 HOURS	2
30	DCKCC013	FACILITY STAFF	<=20 HOURS	1
30	DCKCC015	FACILITY ENVIRONMENTAL STAFF	21-50 HOURS	6
30	DCKCC016	CORPORATE ENVIRONMENTAL STAFF	<=20 HOURS	1
30	DCKMM004	FACILITY ENVIRONMENTAL STAFF	50-100 HOURS	17
30	DCKMM006	FACILITY STAFF	<=20 HOURS	3
30	DCKMM009	FACILITY ENVIRONMENTAL STAFF	<=20 HOURS	2
30	DCKMM010	FACILITY STAFF	21-50 HOURS	3
30	DCKPR009	FACILITY STAFF	<=20 HOURS	2
30	DCKPR010	FACILITY STAFF	21-50 HOURS	2
		SAFETY DEPARTMENT STAFF		
30	DCKPR011	FACILITY STAFF	21-50 HOURS	2
30	DCRDR002	FACILITY ENVIRONMENTAL STAFF	21-50 HOURS	1
30	DCRDR003	FACILITY ENVIRONMENTAL STAFF	<=20 HOURS	2
30	LEXJLW005	FACILITY ENVIRONMENTAL STAFF	<=20 HOURS	1
30	LEXJLW006	FACILITY STAFF	<=20 HOURS	1
30	LEXJLW011	CONSULTANT/CONTRACTOR	<=20 HOURS	1
30	LEXJLW012	CORPORATE ENVIRONMENTAL STAFF	21-50 HOURS	2
30	RTPMOP002	CONSULTANT/CONTRACTOR	21-50 HOURS	2
331	DCDBS014	FACILITY ENVIRONMENTAL STAFF	21-40 HOURS	9
331	DCJMR001	FACILITY STAFF	<= 8 HOURS	1
		PLANT MANAGER (1996).		
331	DCKMM022	FACILITY STAFF	9-20 HOURS	5
331	DCKPR020	FACILITY ENVIRONMENTAL STAFF	21-40 HOURS	4
331	DCRDR006	FACILITY STAFF	41-100 HOURS	1
331	DCRDR012	CORPORATE ENVIRONMENTAL STAFF	41-100 HOURS	4
331	LEXJLW018	FACILITY ENVIRONMENTAL STAFF	>100 HOURS - 120	5
331	RTPMOP010	CORPORATE ENVIRONMENTAL STAFF	9-20 HOURS	2
332	DCDBS012	FACILITY ENVIRONMENTAL STAFF	21-40 HOURS	3
332	DCDBS017	CORPORATE ENVIRONMENTAL STAFF	9-20 HOURS	1
332	DCKMM021	FACILITY STAFF		2
332	DCMDN001	CORPORATE ENVIRONMENTAL STAFF	41-100 HOURS	1
		SAFETY DEPARTMENT STAFF		

SIC	ID	PERSONNEL	RANGE	FORMR
332	DCMJB001	FACILITY STAFF	21-40 HOURS	4
		CONSULTANT/CONTRACTOR		
332	DCRDR010	FACILITY STAFF	<= 8 HOURS	1
332	DCRJM001	CONSULTANT/CONTRACTOR	21-40 HOURS	2
333	DCKPR026	FACILITY ENVIRONMENTAL STAFF	41-100 HOURS	10
		CONSULTANT/CONTRACTOR		
334	DCKMM018	CORPORATE ENVIRONMENTAL STAFF	<= 8 HOURS	1
334	DCMJB007	FACILITY ENVIRONMENTAL STAFF	21-40 HOURS	1
334	LEXJLW024	CONSULTANT/CONTRACTOR	9-20 HOURS	4
335	DCDBS013	FACILITY STAFF	21-40 HOURS	3
335	DCDBS015	FACILITY ENVIRONMENTAL STAFF	41-100 HOURS	1
335	DCKPR025	FACILITY ENVIRONMENTAL STAFF	21-40 HOURS	2
335	DCMDN003	FACILITY ENVIRONMENTAL STAFF	9-20 HOURS	2
335	DCRDR009	FACILITY STAFF	<= 8 HOURS	1
335	DCRDR011	FACILITY STAFF	<= 8 HOURS	3
335	LEXJLW017	FACILITY STAFF	<= 8 HOURS	1
335	LEXJLW019	PRESIDENT/OWNER OF COMPANY.	<= 8 HOURS	1
367	DCKMM019	FACILITY ENVIRONMENTAL STAFF	21-40 HOURS	4
367	DCKMM020	FACILITY ENVIRONMENTAL STAFF	9-20 HOURS	5
367	DCKMM023	CONSULTANT/CONTRACTOR	41-100 HOURS	4
367	DCKMM026	CONSULTANT/CONTRACTOR	21-40 HOURS	1
367	DCKPR022	FACILITY ENVIRONMENTAL STAFF	<= 8 HOURS	1
		SAFETY DEPARTMENT STAFF		
367	DCMJB005	FACILITY ENVIRONMENTAL STAFF	9-20 HOURS	4
367	DCRDR004	FACILITY ENVIRONMENTAL STAFF	9-20 HOURS	2
		CORPORATE ENVIRONMENTAL STAFF		
		SAFETY DEPARTMENT STAFF		
367	DCRDR014	FACILITY STAFF	<= 8 HOURS	1
367	LEXJLW023	FACILITY ENVIRONMENTAL STAFF	41-100 HOURS	6
367	RTPMOP009	CONSULTANT/CONTRACTOR	9-20 HOURS	1
367	RTPMOP011	FACILITY ENVIRONMENTAL STAFF	21-40 HOURS	7
369	DCRDR008	FACILITY STAFF	41-100 HOURS	1
369	LEXJLW020	FACILITY ENVIRONMENTAL STAFF	41-100 HOURS	3
369	LEXJLW021	CONSULTANT/CONTRACTOR	9-20 HOURS	1
371	DCDBS016	FACILITY ENVIRONMENTAL STAFF	41-100 HOURS	11
371	DCDBS018	CONSULTANT/CONTRACTOR	<= 8 HOURS	1
371	DCDBS019	FACILITY ENVIRONMENTAL STAFF	>100 HOURS - 160	3
371	DCKMM025	FACILITY ENVIRONMENTAL STAFF	41-100 HOURS	3
371	DCKPR021	MAINTENANCE SUPERVISOR	<= 8 HOURS	1
371	DCKPR023	FACILITY ENVIRONMENTAL STAFF	9-20 HOURS	1
		CONSULTANT/CONTRACTOR		
371	DCKPR024	CONSULTANT/CONTRACTOR	41-100 HOURS	2
371	DCMJB002	CORPORATE ENVIRONMENTAL STAFF	41-100 HOURS	3
371	DCMJB003	FACILITY ENVIRONMENTAL STAFF	9-20 HOURS	4
371	DCMJB004	FACILITY ENVIRONMENTAL STAFF	>100 HOURS - 200	14
371	DCMJB006	FACILITY ENVIRONMENTAL STAFF	21-40 HOURS	4

SIC	ID	PERSONNEL	RANGE	FORMR
371	DCRDR005	FACILITY ENVIRONMENTAL STAFF	<= 8 HOURS	2
371	DCRDR007	CORPORATE ENVIRONMENTAL STAFF	>100 HOURS - 999	5
371	LEXJLW022	FACILITY ENVIRONMENTAL STAFF	<= 8 HOURS	2
371	RTPMOP012	FACILITY ENVIRONMENTAL STAFF	<= 8 HOURS	2
372	DCKMM024	CORPORATE ENVIRONMENTAL STAFF	9-20 HOURS	3
372	DCMDN002	FACILITY ENVIRONMENTAL STAFF	21-40 HOURS	2
372	DCRDR013	FACILITY ENVIRONMENTAL STAFF	41-100 HOURS	4
		SAFETY DEPARTMENT STAFF		
372	RTPMOP013	FACILITY ENVIRONMENTAL STAFF	9-20 HOURS	1

Data from RTI: RY99

Facility Name	SIC	Burden per Form R
James River Corp.	2611	8
Abbot Chemicals	2833	16
Pfizer Inc.	2833	14
Harris Paints	2851	88
Sunoco Inc	2911	9 -16
Edgewater Steel Ltd.	3312	3
Dynamet, Inc.	3356	8
GE Co.	3511	15
Pratt & Whitney	3724	53
Boise Cascade.	2611	7.7
UCAR Resinas	2821	76
Schering-Plough	2833	48
Chem Design Corp.	2869	8
Star Enterprises	2911	28
Washington Steel	3312	12
Avon Lomalinda	3471	8
Hazelett Strip Casting	3545	36
General Dynamics, Corp.	3714	10

TRI-ME Users: RY00

TRIFID	SIC	FORM Rs	MIN TOTAL BURDEN	MAX TOTAL BURDEN	AVG	FACILITY AVG/FORM	AVG % SAVINGS FROM 1999
37774MLBBTHIGHL	3732	1	0	8	4	4.0	5
28677JHNBLSALIS	2295	2	21	40	30.5	15.3	78
72301CPSCHBRIDG	2869	10	41	100	70.5	7.1	10
53021KNRC200IN	3089	1	0	8	4	4.0	35
17756YNGND16PAI	3535	2	21	40	30.5	15.3	15
73701PLLSB1301N	2041	1	9	20	14.5	14.5	20
27407CEI NC2750P	4953	1	9	20	14.5	14.5	15

Form A Filers: RY00

TRIFID	SIC	CHEMICALS ON FORM A	MIN TOTAL BURDEN	MAX TOTAL BURDEN	AVG	Facility AVG/CHEM	Facility MAX/CHEM
30705SHWND616DU	2273	1	1	3	2	2.0	3.0
38654MNSHP10333	2653	1	6	8	7	7.0	8.0
07055BRTLTP61WIL	2879	15	21	40	30.5	2.0	2.7
17044MRLTT30IND	2451	1	4	6	5	5.0	6.0
49068CMCST425LE	3086	8	0	1	0.5	0.1	0.1
68776SXCTY25GST	3321	2	9	20	14.5	7.3	10.0
43824SPRBN33715	3544	1	1	3	2	2.0	3.0
45154TRNTYFRONT	3743	1	41	100	70.5	70.5	100.0
28621PRDFRHWY26	2048	3	9	20	14.5	4.8	6.7